AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application.

Listing of Claims:

1. **(Currently Amended)** A process of producing a pulp sheet, said process comprising:

adding a paper quality improver for papermaking to pulp in any step before a papermaking step of forming a paper layer while water in a dilute solution of a pulp material is filtered through a wire while moving thereon;

wherein the paper quality improver for papermaking comprises:

a copolymer (A) having ~~a constituent unit derived from at least one nonionic monomer having a solubility parameter of 20.5 $(MPa)^{1/2}$ or less and a constituent unit derived from at least one anionic or cationic monomer,~~ the following constituent units:

10 - 34 weight % of nonionic unsaturated monomer, wherein said nonionic saturated monomer is tertiary-octyl acrylamide (t-OAAm) or n-butyl methacrylate (BMA);

17 – 29.4 weight % of an anionic or cationic monomer, wherein said anionic or cationic monomer is a quaternary ammonium salt from dimethylaminopropyl acrylamide and methyl chloride (DMAPAA-Q) or a quaternary ammonium salt from dimethylaminoethyl methacrylate and diethyl sulfate (MOEDES); and

47 – 67 weight % of a nonionic unsaturated monomer of acrylamide (AAm), and

a surfactant (B) at an (A)/(B) ratio in the range of 85/15 to 15/85 (weight ratio),

wherein a mixture of the copolymer (A) and the surfactant (B) is prepared by adding surfactant (B) to an aqueous solution of copolymer (A),

wherein the paper quality improver provides at least one paper quality improving effect of the ~~followings~~ following (i), (ii), and (iii):

(i) standard improved bulky value: 0.02 g/cm^3 or more;

(ii) standard improved opacity: 1.0 point or more; and

(iii) standard improved brightness: 0.5 point or more;

~~wherein the copolymer (A) further comprises a constituent unit derived from at least one nonionic unsaturated monomer having a solubility parameter of 26.6 $(MPa)^{1/2}$ or more; and~~

~~wherein, as the contents of the constituent monomers, the copolymer (A) comprises:~~

~~5 to 84% by weight of the nonionic monomer having a solubility parameter of 20.5 $(MPa)^{1/2}$ or less,~~

~~1 to 80% by weight in total of the anionic monomer or the cationic monomer, and~~

~~15 to 94% by weight of the nonionic unsaturated monomer having a solubility parameter of 26.6 $(MPa)^{1/2}$ or more;~~

wherein the surfactant (B) is a water-soluble alcohol alkylene oxide adduct containing an alkylene oxide group having 2 to 4 carbons in an average amount of 5 to less than 150 moles per 1 mole of the alcohol; and

wherein the paper quality improver provides a paper quality improving effect of a standard improved ratio in burst index of –502 or more.

2. **(Currently Amended)** A process of producing a pulp sheet, said process comprising:

adding a paper quality improver for papermaking to pulp in any step before a papermaking step of forming a paper layer while water in a dilute solution of a pulp material is filtered through a wire while moving thereon;

wherein the paper quality improver for papermaking comprises:

a copolymer (A) having ~~a constituent unit derived from at least one nonionic unsaturated monomer having a solubility parameter of 20.5 $(MPa)^{-1/2}$ or less and a constituent unit derived from at least one anionic or cationic monomer,~~ the following constituent units:

10 - 34 weight % of nonionic unsaturated monomer, wherein said nonionic saturated monomer is tertiary-octyl acrylamide (t-OAAm) or n-butyl methacrylate (BMA);

17 – 29.4 weight % of an anionic or cationic monomer, wherein said anionic or cationic monomer is a quaternary ammonium salt from dimethylaminopropyl acrylamide and methyl chloride (DMAPAA-Q) or a quaternary ammonium salt from dimethylaminoethyl methacrylate and diethyl sulfate (MOEDES); and

47 – 67 weight % of a nonionic unsaturated monomer of acrylamide (AAm), and

a surfactant (B) at a rate in the range of (A)/(B) of 85/15 to 15/85 (weight ratio),

wherein a mixture of the copolymer (A) and the surfactant (B) is prepared by adding surfactant (B) to an aqueous solution of copolymer (A),

wherein the paper quality improver provides at least one paper quality improving effect of the ~~followings~~ following (i), (ii), and (iii):

(i) standard improved bulky value: 0.02 g/cm^3 or more;

(ii) standard improved opacity: 1.0 point or more; and

(iii) standard improved brightness: 0.5 point or more;

~~wherein the copolymer (A) further comprises a constituent unit derived from at least one nonionic unsaturated monomer having a solubility parameter of 26.6 $(MPa)^{1/2}$ or more; and~~

~~wherein, as the contents of the constituent monomers, the copolymer (A) comprises:~~

~~5 to 84% by weight of the nonionic unsaturated monomer having a solubility parameter of 20.5 $(MPa)^{1/2}$ or less,~~

~~1 to 80% by weight in total of the anionic monomer or the cationic monomer, and~~

~~15 to 94% by weight of the nonionic unsaturated monomer having a solubility parameter of 26.6 $(MPa)^{1/2}$ or more;~~

wherein the surfactant (B) is a water-soluble alcohol alkylene oxide adduct containing an alkylene oxide group having 2 to 4 carbons in an average amount of 5 to less than 150 moles per 1 mole of the alcohol; and

wherein the paper quality improver provides a paper quality improving effect of a standard improved ratio in burst index of –502 or more.

3-5. **(Canceled)**

6. **(Previously Presented)** A process of producing a pulp sheet according to claim 1, wherein one of the constituent monomers of copolymer (A) further comprises a crosslinkable constituent monomer.

7. **(Previously Presented)** A process of producing a pulp sheet according to claim 1, wherein the HLB of the surfactant (B) is in the range of -5 to 15.

8-10. **(Canceled)**

11. **(Previously Presented)** A process of producing a pulp sheet according to claim 1, further comprising a water-soluble polymer (C) having at least one of a weight-average molecular weight of 1000 to 10,000,000 and a viscosity at 25°C in an 1% aqueous solution of 1 to 4,000 mPa·s.

12. **(Canceled)**

13. **(Previously Presented)** A process of producing a pulp sheet according to claim 1, comprising the step of papermaking the pulp at a papermaking speed of 200 m/min or more.

14. (**Currently Amended**) A pulp sheet which is obtained by adding a paper quality improver for papermaking to pulp in any step before a papermaking step of forming a paper layer while water in a dilute solution of a pulp material is filtered through a wire while moving thereon;

wherein the paper quality improver for papermaking comprises:

a copolymer (A) having ~~a constituent unit derived from at least one nonionic monomer having a solubility parameter of 20.5 $(MPa)^{1/2}$ or less and a constituent unit derived from at least one anionic or cationic monomer~~ the following constituent units:

10 - 34 weight % of nonionic unsaturated monomer, wherein said nonionic saturated monomer is tertiary-octyl acrylamide (t-OAAm) or n-butyl methacrylate (BMA);

17 – 29.4 weight % of an anionic or cationic monomer, wherein said anionic or cationic monomer is a quaternary ammonium salt from dimethylaminopropyl acrylamide and methyl chloride (DMAPAA-Q) or a quaternary ammonium salt from dimethylaminoethyl methacrylate and diethyl sulfate (MOEDES); and

47 – 67 weight % of a nonionic unsaturated monomer of acrylamide (AAm), and

a surfactant (B) at an (A)/(B) ratio in the range of 85/15 to 15/85 (weight ratio),

wherein a mixture of the copolymer (A) and the surfactant (B) is prepared by adding surfactant (B) to an aqueous solution of copolymer (A);

wherein the paper quality improver provides at least one paper quality improving effect of the ~~followings~~ following (i), (ii), and (iii):

(i) standard improved bulky value: 0.02 g/cm^3 or more;

(ii) standard improved opacity: 1.0 point or more; and

(iii) standard improved brightness: 0.5 point or more;

~~wherein the copolymer (A) further comprises a constituent unit derived from at least one nonionic unsaturated monomer having a solubility parameter of 26.6 (MPa)$^{1/2}$ or more; and~~

~~wherein, as the contents of the constituent monomers, the copolymer (A) comprises:~~

~~5 to 84% by weight of the nonionic monomer having a solubility parameter of 20.5 (MPa)$^{1/2}$ or less,~~

~~1 to 80% by weight in total of the anionic monomer or the cationic monomer, and~~

~~15 to 94% by weight of the nonionic unsaturated monomer having a solubility parameter of 26.6 (MPa)$^{1/2}$ or more;~~

wherein the ~~surfactant(B)~~ surfactant (B) is a water-soluble alcohol alkylene oxide adduct containing an alkylene oxide group having 2 to 4 carbons in an average amount of 5 to less than 150 moles per 1 mole of the alcohol; and

wherein the paper quality improver provides a paper quality improving effect of a standard improved ratio in burst index of -502 or more.

15-18. (**Canceled**)

19. **(Currently Amended)** A process of producing a pulp sheet according to claim 1, wherein the weight ratio of the copolymer (A) and surfactant (B) to **[[**the**]]** a water-soluble polymer (C), which is [copolymer (A) + surfactant (B)]/[water-soluble polymer (C)], is 98/2 to 20/80.

20. **(Previously Presented)** A process of producing a pulp sheet according to claim 1, wherein the copolymer (A) has a weight-average molecular weight of 10,000 to 2,000,000, as determined when using polyethylene glycol as a standard sample in GPC (gel permeation chromatography).

21. **(Canceled)**

22. **(Previously Presented)** A process of producing a pulp sheet according to claim 1, wherein the mixture of the copolymer (A) and the surfactant (B) is water-soluble.

23-27. **(Canceled)**

28. **(Previously Presented)** A process of producing a pulp sheet according to claim 1, wherein said paper quality improver is blended with the pulp material in a refiner, machine chest or head box.

29-30. **(Canceled)**

31. (**New**) A method of improving paper quality, said method comprising:

adding a paper quality improver for papermaking to pulp in any step before a papermaking step of forming a paper layer while water in a dilute solution of a pulp material is filtered through a wire while moving thereon;

wherein the paper quality improver for papermaking comprises:

a copolymer (A) having the following constituent units:

10 - 34 weight % of nonionic unsaturated monomer, wherein said nonionic saturated monomer is tertiary-octyl acrylamide (t-OAAm) or n-butyl methacrylate (BMA);

17 – 29.4 weight % of an anionic or cationic monomer, wherein said anionic or cationic monomer is a quaternary ammonium salt from dimethylaminopropyl acrylamide and methyl chloride (DMAPAA-Q) or a quaternary ammonium salt from dimethylaminoethyl methacrylate and diethyl sulfate (MOEDES); and

47 – 67 weight % of a nonionic unsaturated monomer of acrylamide (AAm), and

a surfactant (B) at an (A)/(B) ratio in the range of 85/15 to 15/85 (weight ratio),

wherein a mixture of the copolymer (A) and the surfactant (B) is prepared by adding surfactant (B) to an aqueous solution of copolymer (A),

wherein the paper quality improver provides at least one paper quality improving effect of the following (i), (ii), and (iii):

(i) standard improved bulky value: 0.02 g/cm^3 or more;

(ii) standard improved opacity: 1.0 point or more; and

(iii) standard improved brightness: 0.5 point or more;

wherein the surfactant (B) is a water-soluble alcohol alkylene oxide adduct containing an alkylene oxide group having 2 to 4 carbons in an average amount of 5 to less than 150 moles per 1 mole of the alcohol; and

wherein the paper quality improver provides a paper quality improving effect of a standard improved ratio in burst index of –502 or more.

32. (**New**) The method of improving paper quality according to claim 31, wherein one of the constituent monomers of copolymer (A) further comprises a crosslinkable constituent monomer.